VOLUME CONTENTS

VOLUME 71, No. 1 CONTENTS 1991

	1	The physics of magnetic phenomena
YU. A. IZYUMOV and V. M. LAPTEV	2	Singlet and triplet pairing in superconductors with magnetic ordering
V. YU. IRKHIN and M. I. KATSNEL'SON	13	The problem of Kondo magnets
A. B. BORISOV and G. G. TALUTS	30	The theoretical description of vortices in quasi-two-dimensional magnets
I. M. TSIDIL'KOVSKIY	40	Semimagnetic narrow-gap semiconductors
YE. A. TUROV	66	The acoustics of antiferromagnets
K. B. VLASOV	74	Magneto-acoustic polarization effects
B. K. SOKOLOV and YU. N. DRAGOSHANSKIY	85	Structural barriers and the reduction of magnetic losses in anisotropic electrical engineering steels
M. I. KURKIN and V. V. SERIKOV	95	The possibility of using the NMR method for the investigation of the crystal and magnetic structure of magnets
B. N. FILIPPOV and G. A. SHMATOV	105	On the possibility of controlling the conditions of thermomagnetic recording of information near the compensation point in inhomogeneous ferrimagnetic films
V. N. KAYGORODOV and S. M. KLOTSMAN	111	Intergranular diffusion and the dynamic and magnetic properties of grain boundaries
V. I. GREBENNIKOV and V. YE. NAYSH	124	Diffraction in randomized structures and space correlation functions
YA. DUBOVIK, YE. YE. KRASOVSKIY and YU. V. KUDRYAVTSEV	139	Optical properties of amorphous and solid-phase amorphized films of cobalt–zirconium alloys
L. V. NOMEROVANNAYA, V. A. RASSOKHIN, A. A. MAKHNEV and N. A. POPOVA	145	Optical and electrical properties of disordered Fe–Al alloys
V. I. BONDAR', V. V. GIRZHON and V. YE. DANIL'CHENKO	152	Influence of thermal cycling on the martensitic transformation in iron–nickel alloys
A. I. GORDIYENKO, R. A. ADAMESKU, I. YU. KOZINA and G. V. TURCHANINOVA	158	Texture formation during continuous heating of deformed alloy OT4-1
L. I. KAYGORODOVA, R. R. ROMANOVA, YA. V. ZHINGEL', A. M. DRITS and V. A. RASSO	164	Features of natural ageing of an aluminium–lithium alloy with high copper content
N. A. POLYAKOVA, V. A. UDOVENKO and E. D. CHICHUA	171	The structure, deformation mechanism and strength properties of ageing Cu–Ni–Mn alloys
S. A. ATROSHENKO, T. V. BALICHEVA, G. V. KOTOV and YU. I. MESHCHERYAKOV	180	Concerning the spalling mechanisms of metals at meso- and macrolevels
		Short Reports and Letters to the Editor
N. A. MANAKOV, G. F. KORZNIKOVA, KH. YA. MULYUKOV, V. V. STOLYAROV and V. V. TOLMACHEV	189	Concerning the remagnetization mechanism of microcrystalline NdFeB alloys
V. E. KLYUKIN	193	Concerning the possibility of stimulating a superconducting transition in layered metal oxides by pumping
V. F. NOVIKOV and A. YE. PROZHERIN	197	Magnetoelastic properties of composite materials which contain cobalt

S. P. BELYAYEV, S. L. KUZ'MIN, V. A. LIKHACHEV and L. N. SHCHERBAKOVA 201 Reactive stresses and the reversible shape memory effect in titanium nickelide

VOLUME 71, No. 2 CONTENTS 1991

YE. I. ZABOLOTSKIY 1 Calculation of the $N_{4,5}$-emission spectra of thulium in the re-emission channel during electronic excitation

I. KH. KHALILOV, S. A. NINALALOV and E. S. GAVRILOV 7 The electrical resistivity and anomalous Hall effect of amorphous binary alloys of transition metals

V. A. STARENCHENKO, T. A. SHALYGINA, I. I. SHALYGIN and L. YE. POPOV 12 Model of work hardening and dynamic recovery in alloys with Ll_2 superlattice with high antiphase boundary energy

YU. M. MISHIN and I. V. YUROVITSKIY 20 A generalized model of grain-boundary diffusion

V. N. PEREVEZENTSEV and V. N. CHUVIL'DEYEV 30 The kinetics of grain growth in alloys with microduplex structure

V. V. MALASHENKO and B. I. KHUDIK 36 Influence of elastic surface defects on the magnetization distribution and spin-wave decay in a ferromagnet

A. N. VARAKSIN and V. S. KOZYAYCHEV 42 Hydrogen diffusion in palladium: simulation by the molecular dynamics method

I. A. MOROZ, V. N. YEVTUSHENKO, A. I. PAVLENKO and K. A. PUSHKAREV 49 Investigation of the temperature dependence of certain parameters of the lattice dynamics of titanium alloys

A. B. GRITSENKO, D. K. BELASHCHENKO and I. N. KOSOV 54 Features of short-range order in the iron–hydrogen amorphous metallic system

V. S. SEMENOV 61 Two-dimensional Bloch and Néel walls in magnetic films. I. 180° domain walls

YU. S. PYATILETOV, S. B. KISLITSYN and N. I. YEDEMSKIY 69 The formation of impurity atmospheres around vacancy voids in solid substitutional solutions

V. I. ANDREYEV, A. B. GRANOVSKIY, V. V. ZUBENKO, D. N. MAKHAMBETOV, N. A. KHATANOVA and V. A. YAKOVLEV 76 Influence of the texture on anisotropy of the thermal e.m.f. of obliquely sputtered bismuth films on glass and silicon substrates

V. O. VAS'KOVSKIY, G. S. KANDAUROVA, YE. G. GERASIMOV, V. KH. OSADCHENKO, A. V. SVALOV and YE. M. PAMPURA 82 Spin reorientation in non-uniform ferrimagnetic Gd–Co films

L. V. NIKITIN, L. S. MIRONOVA, V. V. LITVINTSEV and V. N. KATKEVICH 89 Magneto-optical investigation of X-ray amorphous cobalt films

N. V. BARANOV, YE. V. SINITSYN, A. I. KOZLOV and YE. A. BARABANOVA 97 Field-induced magnetic phase transitions in alloys based on FeRh

YU. N. STARODUBTSEV 104 On the influence of crystallographic orientation on magnetic induction of silicon iron single crystals

YU. N. TSIOVKIN, N. I. KOUROV and V. YU. IVANOV 110 The Hall effect in $(Pd_xPt_{1-x})_3Fe$ solid solutions in strong magnetic fields ($H \leqslant 12$ MA m^{-1})

N. YE. ALEKSEYEVSKIY, V. I. NIZHANKOVSKIY and A. V. TANDIT 117 Investigation of the physical properties of single crystals of ternary molybdenum chalcogenides. II. Measurements in strong magnetic fields

M. V. GLAZOV, A. S. KRYLOV and N. A. PALIY 130 The use of different modifications of the regularization method in the processing of results of a diffraction experiment for amorphous alloys. I. Description of regularizing algorithms and programs

V. A. SOMENKOV, A. V. IRODOVA, N. A. PALIY, V. V. VAVILOVA and M. V. GLAZOV — 137 The use of different modifications of the regularization method in the processing of results of a diffraction experiment for amorphous alloys. II. Neutron diffraction investigation of the structure of amorphous alloy $Re_{90}Ta_{10}$

V. V. KOKORIN, YU. I. SAMSONOV, L. F. KHSHANOVSKIY, V. A. CHERNENKO and O. M. SHEVCHENKO — 141 Volume change during the γ–α transformation in iron–nickel based alloys

A. A. POPOV, D. A. PUMPYANSKIY and V. A. BELOGLAZOV — 147 Investigation of phase and structural transformations in titanium alloy TS6 with an initially polygonized structure

V. P. NABEREZHNYKH, V. I. TKACH, A. I. LIMANOVSKIY and V. YU. KAMENEVA — 153 Crystallization of amorphous alloy $Fe_{80}B_{20}$ during heating at a constant rate

SH. SH. IBRAGIMOV, A. I. KOZIN, S. V. MAKAROV and V. P. POLTAVTSEVA — 161 Influence of irradiation by protons with energy 5–30 MeV on defect formation in molybdenum

A. L. BEREZINA, V. A. VOLKOV, S. V. IVANOV, N. I. KOLOBNEV and K. V. CHUISTOV — 167 The influence of scandium on the kinetics and morphology of decomposition of alloys of the Al–Li system

V. A. GOL'TSOV and YU. A. ARTEMENKO — 176 Kinetic and morphological features of hydride transformations in the palladium–hydrogen system

T. P. KRINITSINA, S. V. SUDAREVA, YE. P. ROMANOV, L. A. RODIONOVA, YE. A. MISHUTIN, A. D. NIKULIN, A. K. SHIKOV and YE. A. DERGUNOVA — 184 Mechanism of formation of a superconducting diffusion layer V_3Ga in V/Cu–Ga composites with alloyed cores

L. N. LARIKOV, M. N. BELYAKOVA and V. V. ZHOLUD' — 193 The development of rotational deformation during pulsed loading of molybdenum single crystals and its relation with reorientation bands

Short Reports and Letters to the Editor

N. V. FEDOROV✝, V. YA. ZLENKO and G. N. FEDYUKINA — 199 Concerning diffusion etch pits in iron–nickel alloys

V. V. LATYSHEV, V. G. GUR'YANOV, M. YU. ASLIDDINOVA, I. I. CHOLOVYAN and G. I. MIRONOVA — 202 Permeation of impurities through hydrogen diffusion membranes of palladium alloys

VOLUME 71, No. 3 CONTENTS 1991

SH. KH. KHANNANOV — 1 A quasi-polycrystalline model of amorphous metals

V. T. SHMATOV — 7 Ordering parameters in the Ising model

A. B. BORISOV and V. V. KISELEV — 17 The dynamics of Peierls dislocations

V. S. SEMENOV — 26 Two-dimensional Bloch and Néel walls in magnetic films. II. Intermediate domain walls

N. A. MANAKOV and M. A. POCHERNIN — 35 Analysis of the magnetic behaviour of a fragment of a microcrystalline alloy

V. I. GREBENNIKOV and O. B. SOKOLOV — 41 Superconductivity of narrow band metals in the model of multichannel scattering at fluctuations of the electronic density

V. A. PECHENKIN and G. A. EPOV — 55 A theoretical investigation of radiation-induced segregation of the components of binary and ternary substitutional alloys at sinks of point defects

A. S. BAKAY and A. A. TURKIN — 64 Phase stability of binary alloys under irradiation. I. Growth of coherent and incoherent new-phase precipitates in concentrated alloys

A. S. Bakay, A. A. Turkin and Yu. A. Turkin — 74 Phase stability of binary alloys under irradiation. II. Radiation-modified phase diagrams

A. A. Zisman and V. V. Rybin — 83 Intrinsic stresses of a fragment exposed to excess plastic deformation

A. S. Karolik and V. I. Sharando — 93 Thermoelastic and piezo-thermoelectric effects in ferromagnetic Cu–Ni alloys

Ye. M. Levin, M. Yu. Balabin and A. V. Aleshin — 99 Electron transport properties of magnetically ordered rare-earth RMn_2X_2 compounds

Yu. P. Dontsov, V. V. Lomonosov and M. Yu. Talantov — 105 Electron combination scattering of light in disordered $Ti_{1-x}Fe_x$ alloys: theory and experiment

Yu. N. Kazantsev, G. A. Kraftmakher, A. A. Glazer, A. P. Potapov and R. I. Tagirov — 113 High-frequency magnetic permeability of ribbons and films of amorphous alloys based on cobalt and iron

A. A. Glazer, A. B. Ishkov, A. S. Kashintsev, O. S. Kolotov, V. A. Pogozhev and R. I. Tagirov — 120 Pulsed 180° remagnetization of amorphous $Fe_5Co_{70}Si_{15}B_{10}$ films

S. V. Sudareva, T. P. Krinitsina, Ye. P. Romanov, L. A. Rodionova, A. K. Shikov, A. D. Nikulin and A. Ye. Vorob'yeva — 125 Discontinuous decomposition in the Cu–13 wt% Sn alloy

N. K. Arkhipova, V. N. Kaygorodov, S. M. Klotsman and Ye. V. Kozhevina — 131 Intergranular diffusion of cobalt in polycrystalline tungsten

S. D. Prokoshkin, L. M. Kaputkina, S. A. Bondareva, O. Yu. Tikhomirova, L. P. Fatkullina and S. V. Oleynikova — 143 Structure of hot-deformed austenite and properties of a Ti–Ni–Fe alloy after HTMT

L. A. Rodionova, Ye. N. Popova, S. V. Sudareva, Ye. P. Romanov, A. D. Nikulin, A. K. Shikov and Ye. A. Dergunova — 149 Electron microscopy investigation of the structure of the bronze matrix of a V/Cu–Ga composite with reduced ductility

A. I. Uvarov, V. V. Volkov, I. Yu. Iyevlev, A. A. Bogdanov and T. P. Vasechkina — 157 Acoustic emission of austenitic steel 40Kh4G18F during deformation by twinning

V. N. Kuznetsov, V. I. Shalayev and V. I. Yushkov — 162 Deformation mechanisms and texture change of steel Kh16N15M3B during creep

V. Ye. Nazarov — 171 The influence of the structure of copper on its acoustic non-linearity

R. M. Imayev, O. A. Kaybyshev and G. A. Salishchev — 178 Mechanical behaviour of fine-grained intermetallic compound TiAl. II. The brittle–tough transition

V. I. Danilov, L. B. Zuyev, N. M. Mnikh, V. Ye. Panin and L. V. Shershova — 187 Wave effects during plastic flow of polycrystalline Al

Short Reports and Letters to the Editor

A. D. Nikulin, A. K. Shikov, I. I. Davydov, N. Ye. Khlebova, Ye. V. Antipova, N. I. Kozlenkova, M. V. Burikov, V. N. Shishov, Ye. Yu. Klimenko, V. S. Kruglov and T. A. Davlat'yan — 194 Investigation of the structure and superconducting properties of multicore conductors based on Bi(Pb)SrCaCuO

D. B. Titorov — 198 Matrix textures that allow the development of a cubic texture during recrystallization of the Fe + 3% Si alloy

M. A. Kravchenko — 201 Some features of formation of the structure and properties of copper alloys with the shape memory effect by heat treatment

V. A. Bukin, L. A. Litvintseva, V. V. Litvintsev and B. N. Kharinskiy — 205 Structural factor and electrical resistivity of amorphous films of alloys of transition metals

209 Reviews of papers received

210 Obituary, Vissarion Dmitriyevich Sadovskiy

VOLUME 71, No. 4 CONTENTS 1991

V. I. Grebennikov and V. Ye. Naysh — 1 Radiation scattering intensity and short-range order in an Ising chain. Exact solutions

B. V. Petukhov — 15 Concerning the influence of mobile point defects on the dislocation dynamics in a crystal relief

R. I. Garber — 23 Cohesion in real materials

V. N. Perevezentsev, O. E. Pirozhnikova and V. N. Chuvil'deyev — 29 Grain growth during superplastic deformation of microduplex alloys

Yu. N. Stepanov, V. P. Alekhin and K. P. Gurov — 37 Diffusion relaxation of the vacancy distribution during cyclical loading of metals

A. V. Yezhov, V. M. Cherkashenko, E. Z. Kurmayev, B. V. Mitrofanov, N. V. Ivenko and S. Z. Nazarova — 43 Ultrasoft X-ray emission spectra of Ti–Nb–C, Nb–Mo–C carbide systems

A. V. Yezhov, V. M. Cherkashenko, E. Z. Kurmayev, N. V. Ivenko and B. V. Mitrofanov — 47 Ultrasoft X-ray emission spectra of the components in titanium oxycarbonitrides

A. S. Karolik and V. I. Sharando — 51 The longitudinal piezothermoelectric effect in Cu–Ni alloys

L. I. Vershinina, V. S. Zhigalov, A. V. Zhuravlev and G. I. Frolov — 59 Perpendicular anisotropy in Dy–Co films

B. Ye. Vintaykin, V. A. Golikov, V. V. Dudarev and I. G. Sapkova — 70 Phase equilibrium in hard magnetic alloys Fe–Cr–Co–V and Fe–Cr–Co–V–Mo

K. N. Mikhalev, B. A. Aleksashin, S. V. Verkhovskiy, E. G. Valiulin and A. S. Shcherbakov — 77 NMR of ^{59}Co in metastable $Ti_{1-x}Co_x$ alloys

A. S. Andreyenko, R. N. Damyanova, I. V. Zolotykhin and S. A. Nikitin — 81 The influence of crystallization processes on the magnetization of amorphous (Tb, Dy)Co alloys

A. M. Burkhanov, V. V. Gudkov, I. V. Zhevstovskikh, A. V. Tkach and V. V. Ustinov — 87 Elastic properties of the La–Sr–Cu–O system. II. Temperature dependences of the elastic moduli and internal friction. Influence of a magnetic field and neutron irradiation on the acoustic parameters

P. D. Rodionov, Ye. A. Kuleshova, V. A. Sazonova, N. I. Vinogradova, D. P. Rodionov and V. N. Larionov — 93 Influence of high-temperature treatment of the melt on the structure of single crystals of creep resistant alloys

V. K. Portnoy, V. Z. Rafikov, N. L. Anikanov and T. A. Aslamova — 101 Influence of titanium–zirconium silicides on the features of structural recrystallization of titanium alloys

K. Havancsak, G. Szenes and V. A. Shchegolev — 108 Influence of irradiation by high-energy heavy ions on the defect structure of copper

V. Dimova, D. Danailov, T. Markov, A. Pavlovski and P. Ziyeba — 117 Precipitation processes in rapidly quenched Al–Zn alloys

D. I. Tupitsa, V. A. Shabashov and A. G. Golikov — 124 *In situ* investigation of phase transformations of iron–nickel alloys under pressure

G. V. SHAKHANOVA, M. YA. BRUN and I. V. SOLDATENKO — 130 Study of the origin of "coarse precipitates" of α-phase in the structure of titanium alloys and the conditions of their formation during deformation and heat treatment

O. P. MOROZOV, V. M. SCHASTLIVTSEV and I. L. YAKOVLEVA — 135 The influence of additional alloying with chromium and molybdenum of carbon eutectoid steel on the upper and lower bainite transformations of austenite

G. V. SHAKHANOVA and O. G. UKOLOVA — 143 Features of the texture of hot upsetting and its influence on the structure of titanium alloy VTZ-1

V. N. PUSTOVOYT, YU. N. CHURYUKIN and V. A. BLINOVSKIY — 149 On one model of nucleation during diffusional phase transformations (with reference to the precipitation of excess ferrite in porous steel)

V. P. KORZHOV and V. I. KULAKOV — 160 The influence of chemical effects on parameters of the superconducting transition of the $YBa_2Cu_3O_x$ ceramic

A. V. TOLSTOY — 166 Anisotropy of the elastic fields and features of transformation of the profile of diffraction line (200) of the matrix phase of a copper–beryllium alloy

YE. P. BOGDANOV, S. A. KOTRECHKO, YU. YA. MESHKOV and V. V. KOSARCHUK — 170 On the influence of elastic anisotropy of grains on yield of a polycrystal

V. A. KONONENKO✝, V. K. PISHCHAK and I. V. SHATOVA — 177 A comparative investigation of creep of single crystal and polycrystalline molybdenum of the same composition

O. S. VOL'F, B. YE. LOKSHIN and V. A. PAVLOV — 182 Influence of thermomechanical treatment on the cold-shortness of high-chromium alloys

Short Reports and Letters to the Editor

V. T. SHMATOV — 190 Towards the description of dislocations in the theory of elasticity

V. G. GAVRILYUK, V. A. DUZ', YU. N. YAGODZINSKIY, YU. PETIKAINEN, K. ULLAKKO and O. SEDERBERG — 194 Internal friction in alloyed Fe–C martensite

V. V. TOLMACHEV, V. A. LYUBUSHKIN and G. I. RUSOV — 198 Temperature hysteresis of magnetization of rapidly quenched alloy $Sm_{33}Fe_{67}$

YU. N. STARODUBTSEV and V. A. KATAYEV — 202 Anisotropy of the magnetic properties of amorphous alloy $Fe_{80}Bi_{14}Si_4C_2$

V. A. RASSOKHIN — 205 The Hall effect in high-resistance alloys of the Cr–Al system

VOLUME 71, No. 5 CONTENTS 1991

A. S. KONDRAT'YEV, S. S. NEDOREZOV and V. G. PESCHANSKIY — 1 Quantum magnetodimensional effects in metals

N. N. DEGTYARENKO, V. F. YELESIN and V. L. MEL'NIKOV — 34 Partial atomic displacements in $YBa_2Cu_3O_7$ under the effect of high-energy particles

YU. V. KUDRYAVTSEV, I. N. MISHCHENKO, YA. DUBOVIK and YE. A. GAN'SHINA — 43 Spin fluctuations in weak ferromagnetic Ni–Al alloys

V. V. STOLYAROV, G. F. KORZNIKOVA, S. N. SAZONOV, R. M. FAYZIRAKHMANOV and R. Z. VALIYEV — 49 Structure and magnetic properties of a hot-pressed alloy of the Fe–Nd–B system

N. I. KOUROV, I. I. PIRATINSKAYA and YU. N. TSIOVKIN — 54 The paramagnetic susceptibility of quasibinary Pt_2Mn–Pt_3Fe solid solutions

N. I. KOUROV, A. G. KUCHIN and A. S. YERMOLENKO — 59 — The heat capacity of $Tb_xSm_{1-x}Ni_5$ alloys with competing single-ion anisotropy

V. D. SUKHANOV — 65 — Structural instability and atomic ordering in CuPd–Co alloys

V. N. PUSTOVOYT, YU. N. CHURYUKIN and V. A. BLINOVSKIY — 73 — Structural and kinetic features of the martensitic transformation in porous high-carbon steel

M. G. ISAYENKOVA and YU. A. PERLOVICH — 81 — The role of twinning in the development of a deformation texture in α-zirconium

A. A. PETRUNENKOV — 87 — Heat treatment of low-alloy steels to produce a ferrite–austenite–bainite structure

B. I. NIKOLIN, A. YU. BABKEVICH, T. V. IZDKOVSKAYA and S. N. PETROVA — 93 — Change of the crystal structure of martensite with the addition of a third element of Co–W and Co–Mo alloys

O. I. NOSKOVICH, YE. I. RABKIN, V. N. SEMENOV, B. B. STRAUMAL and L. S. SHVINDLERMAN — 100 — Wetting and premelting phase transitions on the 38° [100] tilt boundary in alloy Fe–12 at.% Si–Zn near A_2–B_2 ordering in the Fe–12 at.% Si volume

V. P. KOBYAKOV and V. N. TARANOVSKAYA — 109 — The recrystallization of single-crystal molybdenum deformed in bending

I. V. LYASOTSKIY and D. V. SHTANSKIY — 116 — Change of structure in unalloyed steels with platelike pearlite structure during laser heating

T. M. MAKHNEVA, YE. P. YELSUKOV and YE. V. VORONINA — 123 — The kinetics of segregation and phase composition during ageing of cold-rolled foils of alloy Kh15 and steel 08Kh15N5D2T

N. M. SULEYMANOV, F. S. GUSEYNOV, SH. M. ALIFOV, A. V. SUYAZOV, M. P. USIKOV and A. P. KHANDAROV — 130 — Structural changes during ageing of alloys of the Fe–Si–Ti system

M. I. MAZURSKIY — 135 — On the appearance of low-energy interphase boundaries during annealing of a titanium alloy

M. I. KARPOV, V. P. KORZHOV, A. A. SNEGIREV, B. A. GNESIN, R. K. NIKOLAYEV and N. S. SIDOROV — 141 — Fabrication of wires of superconducting ceramic $YBa_2Cu_3O_{7-x}$ by the Kunzler method

I. A. LUSHANKIN — 156 — The martensitic $\beta_1 \rightleftarrows \beta_1'$ transformation and retwinning in the γ_1'-phase during sign-variable uniaxial loading of Cu–Sn alloys

V. M. KUZ'MENKO and YU. V. NAVOZENKO — 160 — Features of the avalanche (explosive) crystallization of amorphous Bi–Pb films

A. A. BRYUKHANOV, A. R. GOKHMAN, YU. G. MIKHAYLIVSKIY and V. M. TSMOTS' — 166 — The influence of plastic deformation on the texture and properties of single and polycrystals of the PT-3Vkt alloy

V. I. DANILOV, S. V. YEVSIKOV and L. B. ZUYEV — 172 — Deformation waves and microshear processes in amorphous alloys

O. T. TROITSKIY, YU. A. PERLOVICH, V. N. SIKOROV, B. A. KRUGLOV, A. L. KOSTYSHEV, YU. V. NIKITENKO, I. A. LIPYANKO and M. G. ISAYENKOVA — 176 — Features of texture formation in copper during electroplastic rolling

N. A. DVOROVENKO, S. A. ZHERNOV, YU. I. MARTYNOV, V. K. NOVIKOV, A. F. SIRENKO and V. M. CHMUTOV — 181 — Influence of plastic deformation on the structural and magnetic parameters of alloy Fe + 1.5% Si

Short Reports and Letters to the Editor

A. B. BORISOV and V. A. FEYGIN — 187 — The stability of small cracks

I. V. NOSOVA, V. G. SEREBRYAKOV and E. I. ESTRIN — 191 — The dependence of the plasticity of dual-phase austenite–martensite steels on phase composition

YU. N. STEPANOV, V. P. ALEKHIN and K. P. GUROV — 195 — Relaxation processes during cyclical loading of a specimen in the presence of volume sources and sinks of vacancies

T. A. KOVALEVSKAYA, S. N. KOLUPAYEVA, N. V. KOROTAYEVA and L. YE. POPOV — 199 The height of a shear step in metals with f.c.c. lattice

YE. A. PAMYATNYKH — 203 The influence of electron interaction on determination of effective electronic masses with the help of the de Haas–van Alphen effect

VOLUME 71, No. 6 CONTENTS 1991

V. V. LATYSHEV and V. M. BYSTRITSKIY — 1 Interaction of hydrogen isotopes and diffusion membranes made from palladium alloys

M. A. SHTREMEL' and A. L. MARKOVICH — 21 The energy of incommensurate grain boundaries

G. A. MALYGIN — 30 Theory of the formation of cellular dislocation structures in metals. I. Single slip

M. I. GITGARTS — 41 A contribution to the theory of X-ray scattering at precipitates in crystals with elastic interphase strains

N. A. USOV and YU. B. GREBENSHCHIKOV — 56 The influence of perturbations of shape on the properties of single-domain ferromagnetic particles

S. V. KUPLEVAKHSKIY and I. I. FAL'KO — 65 Features of the tunnelling parameter of Pb–$Ho(OH)_3$–Pb superconducting contact

A. S. KONDRAT'YEV, YE. V. SMIRNOVA and V. M. UZDIN — 71 Description of chemisorption, magnetic properties and reconstruction of the surface of transition metals in the periodic model of Anderson

SH. KH. KHANNANOV — 82 The kinetics of dislocations and point defects during plastic deformation of crystals

V. P. KALASHNIKOV and N. V. KOZHEVNIKOV — 88 The interpolation theory of spin waves in conducting ferromagnets

V. P. KORZHOV, M. I. KARPOV and V. A. ZHUKOVA — 95 Influence of heat treatment on the superconducting properties of the $YBa_2Cu_3O_x$ ceramic

B. YE. VINTAYKIN, M. A. LIBMAN and N. N. POTAPOV — 103 Concerning the temperature stability of the hysteresis properties of hard magnetic alloys based on Fe–Cr–Co

N. A. MANAKOV, G. F. KORZNIKOVA, V. V. STOLYAROV and V. V. TOLMACHEV — 109 Dispersion of the microstructure and the hysteresis properties of rapidly quenched FeNdB alloys

P. G. GULETSKIY, M. M. KIRILLOVA, YU. V. KNYAZEV, YU. I. KUZ'MIN and L. M. SANDRATSKIY — 115 Temperature dependence of the optical conductivity of nickel

N. V. VOLKENSHTEYN, E. V. GALOSHINA, T. S. SHUBINA, F. N. BERSENEVA, A. B. ZAKHAROV and N. I. TIMOFEYEV — 123 Electrical resistivity and magnetic susceptibility of hydrogenated Pd–Mo alloys

V. A. KURAKIN, V. A. PIVEN', A. B. ZAKHAROV, N. I. TIMOFEYEV and F. N. BERSENEVA — 127 Volume and surface parameters of the interaction of hydrogen with palladium alloys

T. V. ETERASHVILI, E. R. KUTELIYA and M. V. KVERNADZE — 132 Microdistortions in crystals of packet martensite in structural steels

P. N. ANTSIFOROV, S. D. GORODETSKIY, A. I. MARKASHOVA and S. I. MARTYNENKO — 137 The role of the surface in reorientation of internal layers of molybdenum single crystals during rolling

L. V. SPIVAK, M. YA. KATS and N. YE. SKRYABINA — 144 Deformation effects induced by the introduction of hydrogen in some transition metals

N. D. Bakhteyeva, N. I. Vinogradova, V. N. Larionov, G. V. Makhanek and S. N. Petrova — 153 Temperature and deformation induced phase and structural transformations in a single crystal nickel superalloy. I. Carbide transformations

B. Ye. Vintaykin, I. G. Sapkova, V. A. Golikov and V. V. Dudarev — 161 Structural and kinetic classification of hard magnetic alloys based on the Fe–Cr–Co system

A. I. Bayev, D. A. Mirzayev and V. M. Schastlivtsev — 166 The influence of short-range ordering processes on the martensitic point of alloyed steels

A. V. Tolstoy — 175 X-ray diffraction in strong anisotropic fields of elastic atomic displacements of polycrystals of a copper–beryllium alloy

V. A. Vozilkin and T. L. Trenogina — 183 Influence of copper on the precipitation of α-phase in concentrated titanium–niobium and titanium–vanadium alloys

V. M. Klyachin, V. V. Nikolayev, N. I. Noskova and Ye. G. Ponomareva — 188 Local change in the substructure of aluminium and alloy Al + 11wt% Mg exposed to focused ultrasonic waves

Short Reports and Letters to the Editor

G. A. Bolotin — 199 The possibility of a rapid increase in the Kerr magneto-optical effect for film structures

N. A. Manakov and M. A. Pochernin — 203 Computer simulation of processes of remagnetization of microcrystalline alloys of high-anisotropy magnets

B. K. Sokolov, Yu. N. Dragoshanskiy, V. V. Gubernatorov, S. P. Ketov, V. V. Shulika, V. K. Chistyakov and N. G. Teregulov — 206 Thermomagnetic treatment of anisotropic electrical engineering steel during laser heating

A. A. Glazer, A. S. Kashintsev, O. S. Kolotov, V. A. Pogozhev and R. I. Tagirov — 210 Features of the behaviour of amorphous $Fe_5Co_{70}Si_{15}B_{10}$ films in pulsating magnetic fields applied along the hard axis

Reproduced with the permission of Pergamon Press Inc., by University Microfilms Inc. Duplication or resale without permission is prohibited.